

Tuberculous Adenitis in an Internal Medicine Department: A Diagnosis Not Always Easy in a Tropical Environment

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Abstract

Introduction: lymph node tuberculosis is a frequent localization of tuberculosis disease. It often poses the problem of its differential diagnosis with other causes of chronic lymphadenopathy in tropical settings.

Method and patients: This is a descriptive cross-sectional study carried out from January 1, 2015 to December 31, 2019 in the internal medicine department of the CHU Le Dantec in Dakar. Patients over 16 years of age with confirmed isolated lymph node tuberculosis were included. The epidemiological, clinical, paraclinical, therapeutic and evolutionary parameters were studied.

Results: Forty-six patients were included in the study (28 women, 18 men), ie a sex ratio of 0.64. The average age was 31 years old [16 and 70 years old]. Tuberculosis contagion was noted in 28 patients (60.8%) with an aerial predominance (19/28). Forty patients (86.9%) had a BCG scar. Asthenia, weight loss, and vespero-nocturnal fever were constant (100%). Tuberculin skin test (TST) was positive in 43 patients (93.4%). Thirty-four patients (73.9%) presented non-inflammatory, chronic (33/34) non-compressive macropolyadenopathy. Cervical localization predominated (41/46). Six patients (13%) presented with an associated abdominal localization. HIV infection was found in 4 patients. The main comorbidities were diabetes and chronic kidney disease each in 3 cases. The outcome under treatment was favorable in 40 patients. Three patients (6.5%) were lost to follow-up and two (4.3%) died.

Conclusion: lymph node tuberculosis is frequent. Improving the technical platform with the systematic performance of the excisional biopsy would increase diagnostic performance.

Keywords: Lymph node tuberculosis ; Macropolyadenopathy; Tropical environment

Introduction

Tuberculosis is an infectious disease, endemo-epidemic, highly contagious with essentially human-to-human transmission, with a predominant respiratory tropism, due to mycobacteria of the tuberculosis complex. It is a major public health concern [1] particularly in sub-Saharan Africa and Asia. Lymph node tuberculosis, associated with serous inflammation, is one of the most frequent sites of tuberculosis disease [2]. In tropical settings, it often poses the problem of its differential diagnosis with other causes of chronic lymphadenopathy.

Method and patients

This was a descriptive cross-sectional study carried out in the internal medicine department of the CHU Le Dantec in Dakar during the period from January 1, 2015 to December 31, 2019. All patients over 16 years of age with isolated lymph node tuberculosis confirmed bacteriologically or histologically were included. Patients with another tuberculosis site concomitantly or under antituberculosis treatment were not included in the

study. We have studied the epidemiological, clinical, biological, bacteriological and / or histological, therapeutic and evolutionary parameters.

The data was collected on individual collection sheets and captured using the Sphinx 2000 software. The analysis and processing of the data were carried out on the Excel 2007 software.

Results

Forty-six patients were included in the study. They all met the inclusion criteria. During the study period, 378 patients were followed in the Internal Medicine department for tuberculosis of all forms. Forty-six of them presented with isolated lymph node tuberculosis, for a hospital prevalence of 12.1%. HIV infection was found in 4 patients (8.7%). The main comorbidities were diabetes (3 cases), chronic kidney disease (3 cases) and systemic lupus in 2 patients (4.3%). The latter were on long-term corticosteroid therapy. The outcome under anti-tuberculosis treatment was favorable in 40 patients (86.9%). Four patients (8.7%) were lost to follow-up and two (4.3%) died. The average duration of follow-up was 7.3 months.

Discussion

Epidemiological data

Lymph node tuberculosis is one of the most common forms of extrapulmonary tuberculosis. The frequency of lymph node localization varies according to the series. In our study, it was 12.1%, comparable to that found in Senegal by Elguennoumi [3] which was 12.4%. Higher frequencies were however reported in the literature [4, 5, 6, 7, 8] respectively 47.68%; 31%; 35%; 54.8 and 41%.

In sub-Saharan Africa, especially in countries with a high endemicity of HIV infection, tuberculosis has experienced a marked increase in both its pulmonary and extra-pulmonary location with prevalence of up to 69% [9, 10].

The advent of the HIV infection pandemic is one of the main factors contributing to tuberculosis of all forms, in particular extra-pulmonary locations.

Tuberculosis disease affects both sexes with a clear predominance of women (60.7%) in our study, in agreement with various authors [6, 11] who reported 66.50% and 62.5% respectively. The female gender constitutes, according to Yang et al. [12], one of the independent risk factors identified as predisposing to extrapulmonary tuberculosis. In other series, a male predominance was observed with a sex ratio between 1.2 and 2.7 [13, 14, 15, 16].

Tuberculosis is classically a disease of young adults. In our study, the average age was 31 +/- 12 years. Two-thirds of the patients (66%) were between 21 and 40 years old (Figure 1).

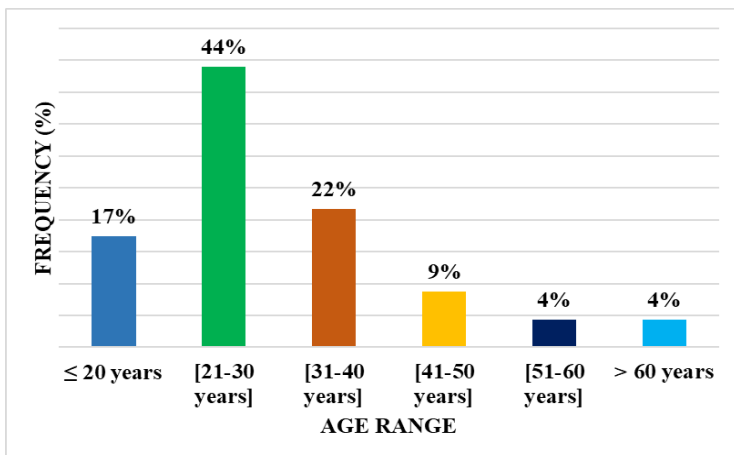


Figure 1: Distribution of patients by age group.

This youthful affection was previously reported by other authors in Senegal [3, 17], who found an average age of between 35.5 and 40 years. Notification data from the national tuberculosis control program in Senegal indicates that the disease significantly affects the young population (15-44 years old), and about 80% of reported cases are under 45 years of age.

Even though this pathology affects mainly young people, the elderly population is not spared, particularly in the West, where the incidence of the disease increases with age. Braune [18], in a study of lymph node tuberculosis in non-immunocompromised adults found a mean age of 69 years in the indigenous population while patients of African origin had a mean age of 32.5 years. The decline in immune functions leading to infectious susceptibility and frequent comorbidities in the elderly could favor the emergence of the bacillus in patients who are often infected at a young age. Tuberculosis could be the consequence of an endogenous reactivation posing a topical problem in this segment of the population whose life expectancy con-

tinues to increase.

Tuberculosis is a disease of insecurity. Indeed, more than half of our patients (26/46) were unemployed as described elsewhere [3,19,20,21] confirming the hypothesis that tuberculosis is generally a disease of poverty and its extra-pulmonary location is no exception to this rule, even in developed countries [22]. This low socio-economic level noted in our findings is in line with the conclusions of the literature according to which “tuberculosis is a disease of poverty”.

Clinical and paraclinical data

Tuberculosis contagion was reported in 29 patients (63%) with a clear predominance of the air (68.9%). Diop [20] in his series found tuberculosis contagion in 69.9% of his patients. In the literature, this notion of contagion is reported in 10 to 25% of patients [5]. This high proportion of tuberculosis contagion observed in our data may largely be explained by the cross-sectional nature of our study. However, tuberculosis being considered as a stigmatizing disease by our population, some patients followed for this disease hid their disease from their relatives. Patients consulted late as evidenced by the delay in consultation with an average delay of 7 months [2 months - 12 months] (Figure 2).

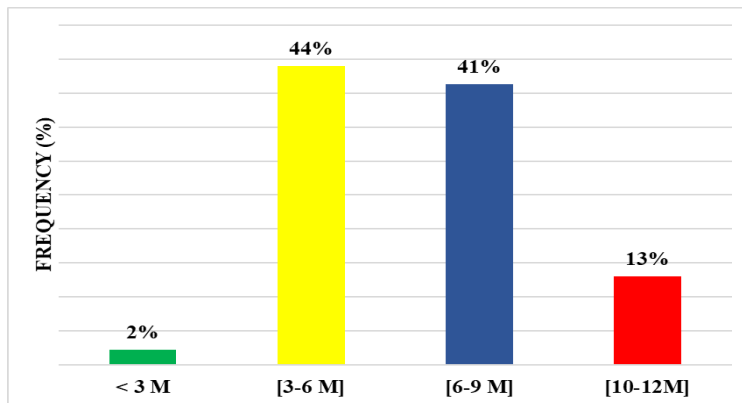


Figure 2: Distribution of patients by onset of symptoms.

This delay in consultation noted in our study is also observed by other authors [1,23,24]; it was on average 6 to 7 months. Tuberculosis regardless of its location is the cause of general nonspecific clinical manifestations. The classic general signs of tuberculosis disease such as deterioration of the general condition and fever were almost constant (44/46) in our study. This is consistent with data from numerous studies reporting these clinical manifestations in 90 to 100% of patients [3,13,17,23,24]. Reported or objectified fever is a very common sign in tuberculosis disease. The latter, moreover, constitutes together with the deterioration of the general condition, the circumstances of discovery of tuberculosis, particularly in its paucisymptomatic or deep forms.

The lymphadenopathy was large with an average of 5.3 cm long axis [2 and 8 cm]. These macropolyadenopathies were isolated superficial (41/46), chronic (44/46), predominantly cervical (40/46). This frequency of cervical localization is reported by various authors [21,25,9] in 95%, 85.8% and 70.6% of cases, respectively.

According to Lacut [26], cervical locations are more frequent with rates close to 70% in immunocompetent patients. Profound involvement was not as rare (4/46). This was associated with cervical involvement and all were non-compressive and necrotic. This last trait, often described, is a major distinguishing feature of other causes of lymphadenopathy (lymphomas,

lymph node metastases, neoplasia, among others).

The positivity of the tuberculin skin reaction is classically described in lymph node tuberculosis with an average of 17 mm [8 - 27mm] and phlyctenular in 67.4% (31/46) of cases. In HIV-seropositive patients, Hochedez [15] reported a positive skin reaction in 63% of cases. However, the latter despite being an important data in the diagnosis of extrapulmonary tuberculosis, its interpretation is not always easy due to errors by excess or by default. It is statically more often positive and phlyctenular in immunocompetent subjects [27]. Also, its negativity does not eliminate active lymph node tuberculosis [18]. Tuberculosis, especially in its extra-pulmonary location, occurs with predilection in immunocompromised individuals. In our study, HIV infection was found in 4 patients (8.7%). In sub-Saharan Africa, HIV infection is the main risk factor for tuberculosis disease; extra-pulmonary form often constituting a mode of revelation as was the case in our 4 patients.

Chronic kidney disease, diabetes, autoimmune disorders were also other risk factors for TB disease.

A biological inflammatory syndrome was noted in all our patients. The data observed in our study are in agreement with those reported by other authors [3,15,23] thus confirming what is classically described: tuberculosis, whatever its location, is accompanied by an inflammatory syndrome [27].

The definitive diagnosis of lymph node tuberculosis is based on the isolation of the germ from the lymph node puncture fluid which remains the gold standard or on the lymph node biopsy which shows the tuberculous granuloma. However, the rarity of Koch bacillus (KB) in caseous lymph node lesions explains its negativity on direct examination in the majority of cases as evidenced by the results of our study during which the germ was isolated in 7 patients (15.2%), in agreement with the data observed by Abassi [28] in Morocco which was 17%. Cytology, because of its easy and rapid implementation, remains recommended as a first-line diagnosis test in developing and highly endemic countries. In our study, the adenogram carried out in 18 patients concluded with tuberculous adenitis in 14 of them. However, this examination was supplemented by systematic lymph node biopsy. The latter confirmed the diagnosis in 38 patients (82.6%). This is similar to data reported in other studies [21,29].

In deep locations, ultrasound can be an important contribution to the etiological orientation. Satomi [30] in Japan, in a study comparing the different ultrasound aspects of neoplastic or lymphomatous lymphadenopathy in tuberculous lymphadenopathy reported in the latter an almost constant central necrosis. In our data, central necrosis was noted in all 6 patients with deep lymphadenopathy.

Therapeutic and evolutionary data

There is no consensus on how long to treat for lymph node TB. The duration of treatment in our study was on average 7.3 months. In the Bourzama study [29], the duration of treatment was 9 months in all patients and 6 to 10 months in the Belhadj study [5]. Hamzaoui [21] reported that 88% of his patients were treated for a period of 6 months. Hochedez [15] in France reported a median duration of treatment of 9 months. However, it has been observed that the 6-month treatment would be as effective as the 9-to-12-month treatment. The duration of treatment should be guided by the evolution of clinical and paraclinical signs.

The outcome under anti-tuberculosis treatment was favorable in 86,9% (40/46) of our patients. These results are similar to

those found in Senegal by Bourzama [29] who noted a good evolution in all his patients (100%) but also in other previous studies [5, 15, 21, 25] which respectively reported 100%, 100 %, 95.2% and 87.5%. Classically, the evolution under regularly monitored anti-tuberculosis treatment is favorable in the majority of cases with recovery of patients marked by regression or even disappearance of lymphadenopathy. However, cases of relapse or treatment failure may be observed, in particular in cases of non-compliance with treatment or resistance of certain strains to major anti-tuberculosis drugs such as rifampicin and isoniazid [1].

Conclusion

Lymph node tuberculosis, along with pleural involvement, is one of the most frequent extrapulmonary sites of tuberculosis disease. It very often poses the problem of its diagnosis of certainty in our countries, which necessarily involves the systematic realization of the lymph node biopsy in front of any subacute or chronic lymphadenopathy and the improvement of the technical platform.

State of current knowledge on the subject

Lymphadenopathy is common in internal medicine. Lymph node tuberculosis should be mentioned in the face of any chronic lymphadenopathy, particularly in tropical settings.

Contribution of our study to knowledge

Tuberculosis mainly affects young subjects. Lymph node biopsy should be performed systematically in the presence of any chronic lymphadenopathy.

Conflicts of interest

The authors declare no conflict of interest.

Contributions from the authors

The authors participated equally. All authors have read and approved the final version of the manuscript.

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